



# Push-Pull Triphenylamine Chromophore Syntheses and Optoelectronic Characterizations

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Auteur	Jeux, Victorien [1], Segut, Olivier [2], Demeter, Dora [3], Alévêque, Olivier [4], Leriche, Philippe [5], Roncali, Jean [6]
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Mots-clés	chromophores [7], Donor-acceptor systems [8], heterocycles [9], semiconductors [10], structure-property relationships [11]
Résumé en anglais	<p>A series of push-pull molecules combining a diarylamine donor block with various electron-acceptor units through phenylthienyl (PT) and bithienyl (TT) <math>\pi</math>-conjugating spacers have been synthesized. Optical and electrochemical results, supported by theoretical calculations, show that the electronic properties of the molecules can be modulated by varying the strength of the acceptor group and/or the structure of the conjugating spacer. As a first evaluation of the potential of these compounds as donors in organic solar cells (OSC), simple planar heterojunction (PHJ) prototypes using fullerene C60 as electron acceptor have been fabricated. Most OSCs exhibit analogous photoconversion efficiencies in the 1.5–2 % range. Their characteristics are discussed in terms of structure-properties relationships.</p>
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